READING

NO BODY BETTER

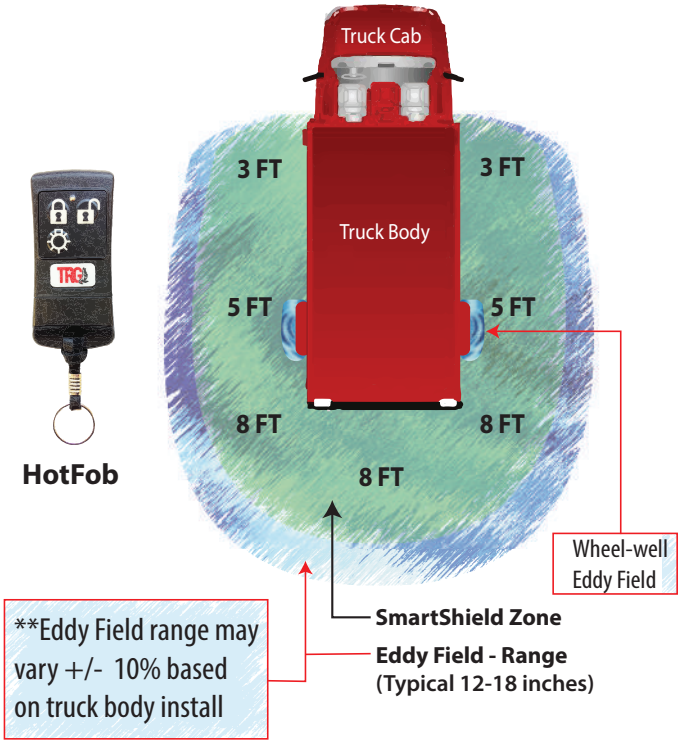
# LatchMatic®

# SERVICE MANUAL

for LatchMatic® and LatchMatic® Smart Shield™

# LatchMatic©-SmartShield

## HANDS FREE Operating Instructions



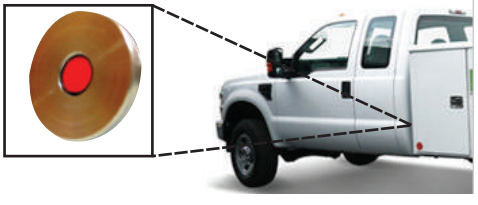

| SmartShield - Standby Current Draw | |
|---|---|
| **0 Fobs:** 11mA | **2 Fobs:** 43mA |
| **1 Fob:** 28mA | **3 Fobs:** 57mA |

***During long periods of storage (14 days or more), SmartShield should be turned Off to reduce standby current drain. Refer to the "SmartShield OFF" instructions to the right.**

### LatchMatic©-SmartShield & LatchMatic© Status LED / Alarm -- Audible & Visual Indiactors

| Event | Visual Indicator | Audible Indicator |
|---|---|---|
| Compartment Doors Locked / Armed | Single Flash Every 5-seconds | Single Chirp |
| Compartment Doors Unlocked / Unarmed | Double Flash One (1) time | Double Chirp |
| Alarm Triggered | Rapid Flashing Until disarmed | Siren Sounds 3-minutes |
| Compartment doors lock, one door open NOT armed | No Flash | No Chirp |

Status LED Option on some truck body models



### Unlock
- Anytime HotFob enters SmartShield Zone
- Press HotFob Unlock button
- Audible Confirmation: Double Chirp

### Lock ONLY - Any Door Open
- ***Press HotFob Lock button - Doors Lock***
- ***NO Audible Confirmation***

### Lock and Arm
- Anytime HotFob exits SmartShield Zone **AND** all doors are closed (5-seconds)
- Press HotFob Lock button (All doors closed)
- Audible Confirmation: Single Chirp

### No Lock
- Anytime HotFob exits SmartShield Zone **AND** door open
- HotFob exits SmartShield Zone and extra Fob detected in zone
- Audible Confirmation: None

### SmartShield OFF (Manual)
- Press AND Hold Lock & Unlock buttons on FOB for 3-seconds
- Audible Confirmation: 10 Chirps

### SmartShield ON (Automatic)
- Press AND Hold Lock & Unlock buttons on FOB for 3-seconds
- Audible Confirmation: 10 Chirps

### Eddy Field
- HotFob detected in Eddy Field can cause intermittent Lock / Unlock events

### Cargo Light - ON
- Any time doors Unlock and door is open
- Press HotFob Cargo Light button

### Cargo Light - OFF
- Timer - 10-minutes
- Any time doors Lock
- Press HotFob Cargo Light button

# LatchMatic©

## Operating Instructions

Unlock
- Press Unlock button
- Audible Confirmation: Double Chirp

Lock & Arm
- Press Lock button (All doors closed)
- Audible Confirmation: Single Chirp

Lock
- Press Lock button (All doors closed)
- Audible Confirmation: Single Chirp

  *Any door open - No Audible Confirmation

Cargo Light - ON
- Press Unlock button
- Press Cargo Light button

Cargo Light - OFF
- Timer - 10-minutes
- Press Door Lock button
- Press Cargo Light button

**Fob**

| LatchMatic - Standby Current Draw |
|---|
| 11mA |

## LatchMatic©-SmartShield & LatchMatic© Code Enrollment

**Enrolling New Transponder / Transmitter FOB for both LatchMatic SmartShield Base Station and LatchMatic Receiver**

**To place Base Station or Receiver into LEARN mode (*Recommended*)**
a. Remove fuse at truck battery and replace
b. ***Within*** 5-seconds, press any button on transponder or transmitter
c. ***Wait*** 5-seconds, press any button on transponder or transmitter
The corresponding fuction should operate if FOB was enrolled successfully

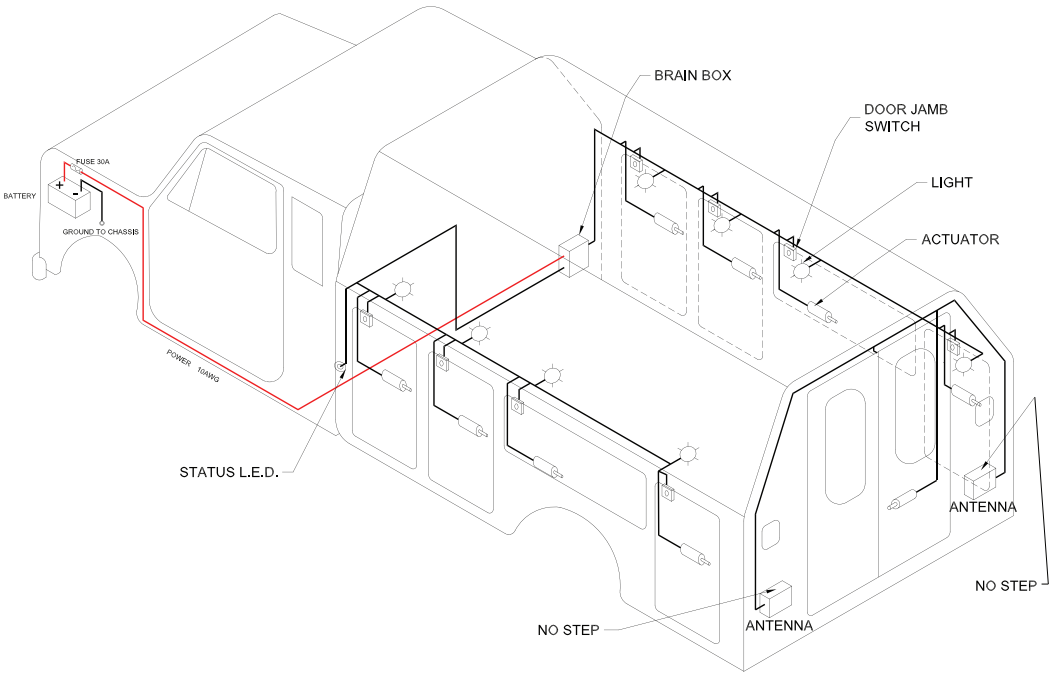
**OR**

**To place Base Station or Receiver into LEARN mode**
a. Open brain box cover
b. Remove and replace 7.5 amp logic fuse
c. ***Within*** 5-seconds, press any button on transponder or transmitter
d. ***Wait*** 5-seconds, press any button on transponder or transmitter
The corresponding fuction should operate if FOB was enrolled successfully

**Transponder HotFob**

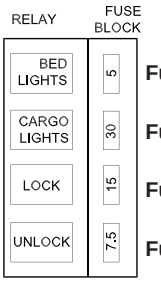
**Transmitter Fob**

# LATCHMATIC©-SMARTSHIELD




## Relay & Circuit Protection

Located inside truck body, front curbside compartment (inside brain box)




**Fuse 4: Siren**

**Fuse 3: Lock/Unlock**

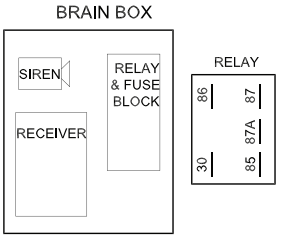
**Fuse 2: Lights**

**Fuse 1: Logic**

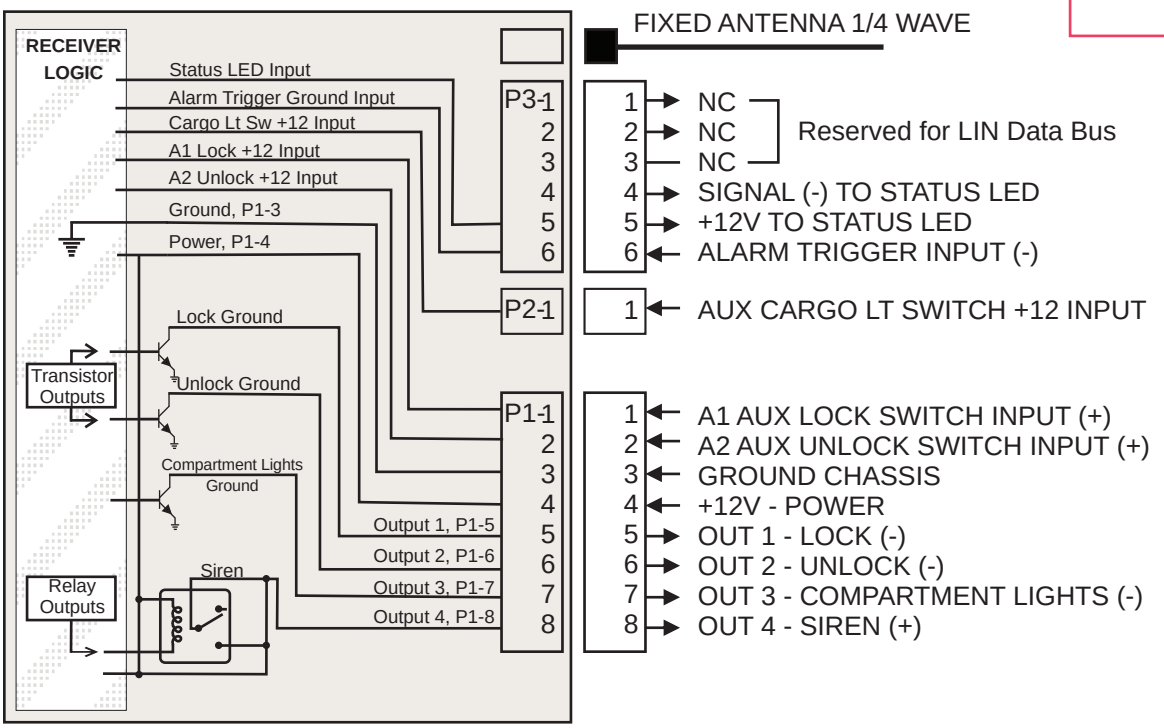
**Fuse 5 - Sealed 30 Amp In-line Fuse**

Main power wire (installed within 18-inches of truck battery or power fuse)

| DRAWING LEGEND |
|---|
| ANTENNA |
| ACTUATOR |
| DOOR JAMB SWITCH |
| LIGHT |
| STATUS L.E.D. |




Note: Chassis Ground is installed on truck frame

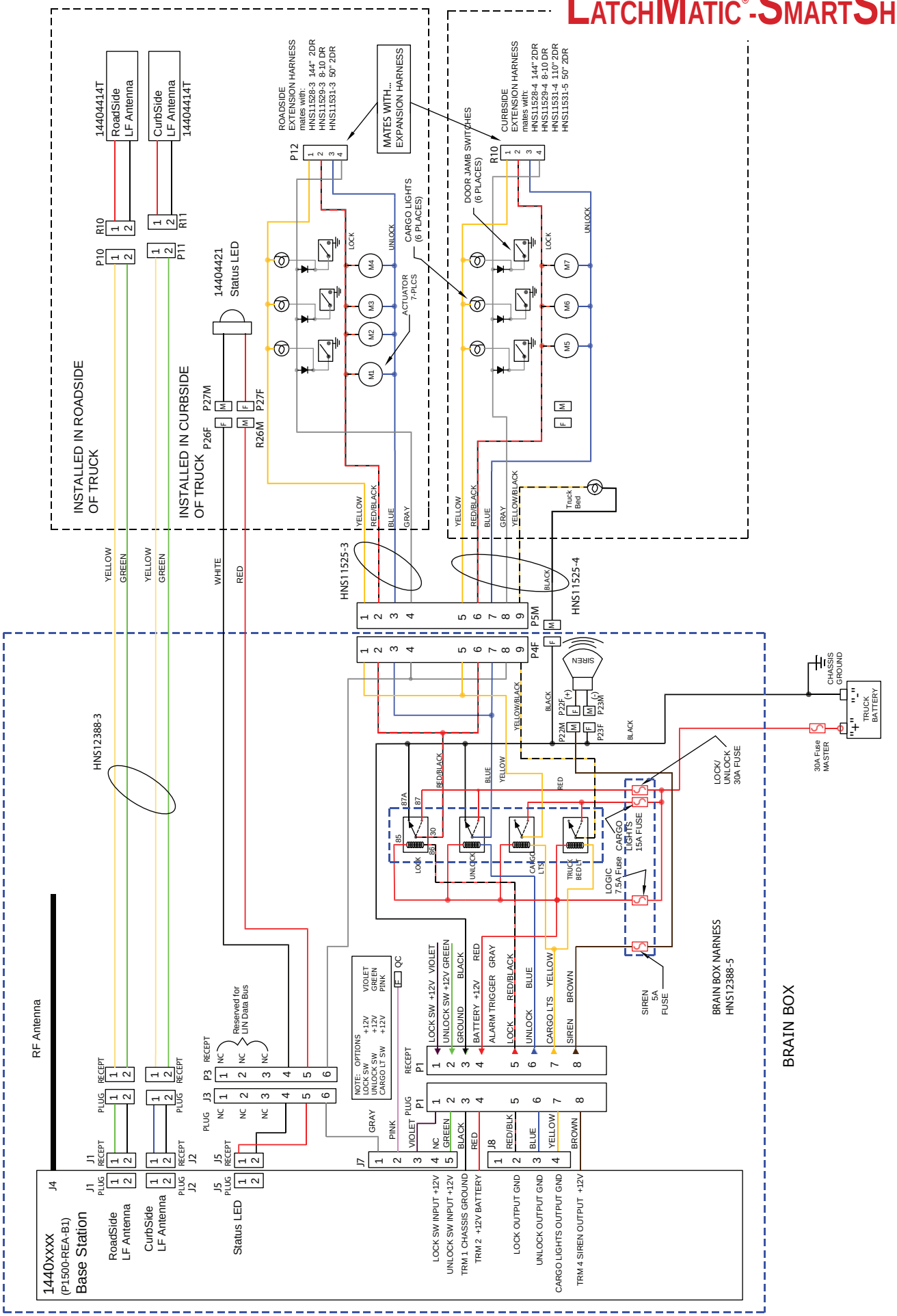



FIXED ANTENNA 1/4 WAVE

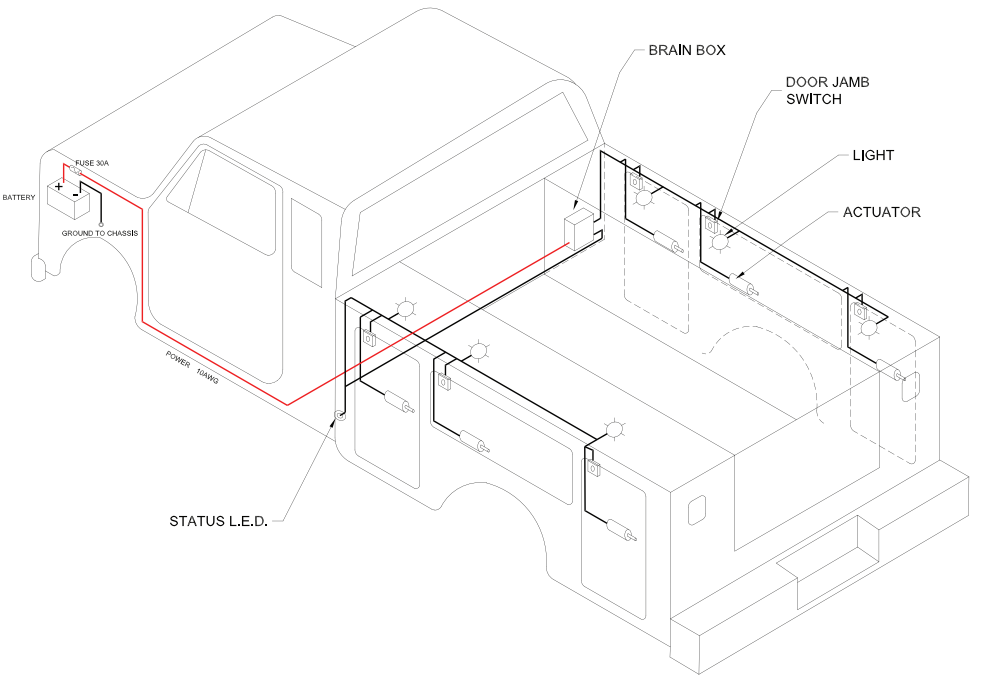
1 → NC
2 → NC
3 → NC
Reserved for LIN Data Bus
4 → SIGNAL (-) TO STATUS LED
5 → +12V TO STATUS LED
6 ← ALARM TRIGGER INPUT (-)

1 ← AUX CARGO LT SWITCH +12 INPUT

1 ← A1 AUX LOCK SWITCH INPUT (+)
2 ← A2 AUX UNLOCK SWITCH INPUT (+)
3 ← GROUND CHASSIS
4 ← +12V - POWER
5 → OUT 1 - LOCK (-)
6 → OUT 2 - UNLOCK (-)
7 → OUT 3 - COMPARTMENT LIGHTS (-)
8 → OUT 4 - SIREN (+)

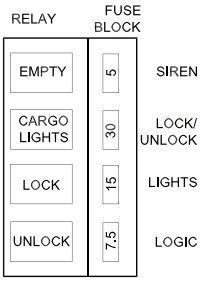

INSTALLED IN ROADSIDE OF TRUCK
INSTALLED IN CURBSIDE OF TRUCK
14404414T RoadSide LF Antenna
14404414T CurbSide LF Antenna
14404421 Status LED
ROADSIDE EXTENSION HARNESS mates with: HNS11528-3 144" 2DR HNS11529-3 8-10 DR HNS11531-3 50" 2DR
CURBSIDE EXTENSION HARNESS mates with: HNS11528-4 144" 2DR HNS11529-4 8-10 DR HNS11531-4 110" 2DR HNS11531-5 50" 2DR
MATES WITH... EXPANSION HARNESS
CARGO LIGHTS (6 PLACES)
ACTUATOR 7-PLCS
DOOR JAMB SWITCHES (6 PLACES)
HNS11525-3
HNS11525-4
HNS12388-3
BRAIN BOX
BRAIN BOX NARNESS HNS12388-5
1440XXXX (P1500-REA-B1) Base Station
RF Antenna
LOCK SW INPUT +12V
UNLOCK SW INPUT +12V
TRM 1 CHASSIS GROUND
TRM 2 +12V BATTERY
LOCK OUTPUT GND
UNLOCK OUTPUT GND
CARGO LIGHTS OUTPUT GND
TRM 4 SIREN OUTPUT +12V
ALARM TRIGGER
LOCK
UNLOCK
CARGO LTS
SIREN
BATTERY +12V
GROUND
LOGIC 7.5A Fuse
CARGO LIGHTS 15A FUSE
LOCK/ UNLOCK 30A FUSE
SIREN 5A FUSE
30A Fuse MASTER
CHASSIS GROUND
TRUCK BATTERY
Reserved for LIN Data Bus
NOTE: OPTIONS LOCK SW UNLOCK SW CARGO LT SW +12V +12V +12V
Truck Bed
SIREN

LATCHMATIC©



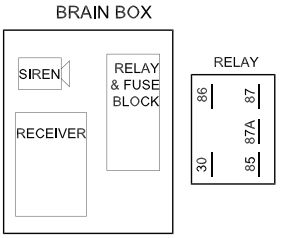

## Relay & Circuit Protection

Located inside truck body, front curbside compartment (inside brain box)

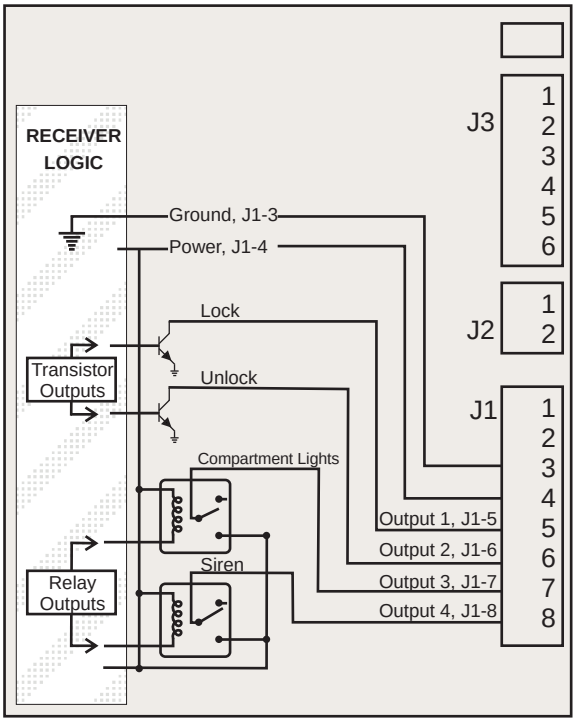



**Fuse 5 - Sealed 30 Amp In-line Fuse**
Main power wire (installed within 18-inches of truck battery or power fuse)

| DRAWING LEGEND | |
|---|---|
| | ACTUATOR |
| | DOOR JAMB SWITCH |
| | LIGHT |
| | STATUS L.E.D. |




Note: Chassis Ground is installed on truck frame




FIXED ANTENNA 1/4 WAVE

| | |
|---|---|
| 1 → | +12V POWER TO LF TRANSMITTER |
| 2 → | GROUND TO LF TRANSMITTER |
| 3 — | DATA BUS RX / TX |
| 4 → | SIGNAL (-) TO STATUS LED |
| 5 → | +12V TO STATUS LED |
| 6 ← | ALARM TRIGGER INPUT (-) |
| 1 ← | AUX CARGO LT SWITCH / GROUND INPUT (-) |
| 2 ← | SPARE (-) (Not used) |
| 1 ← | A1 AUX LOCK SWITCH INPUT (+) |
| 2 ← | A2 AUX UNLOCK SWITCH INPUT (+) |
| 3 ← | GROUND CHASSIS |
| 4 ← | +12V - POWER |
| 5 → | OUT 1 - LOCK (-) |
| 6 → | OUT 2 - UNLOCK (-) |
| 7 → | OUT 3 - COMPARTMENT LIGHTS (+) |
| 8 → | OUT 4 - SIREN (+) |

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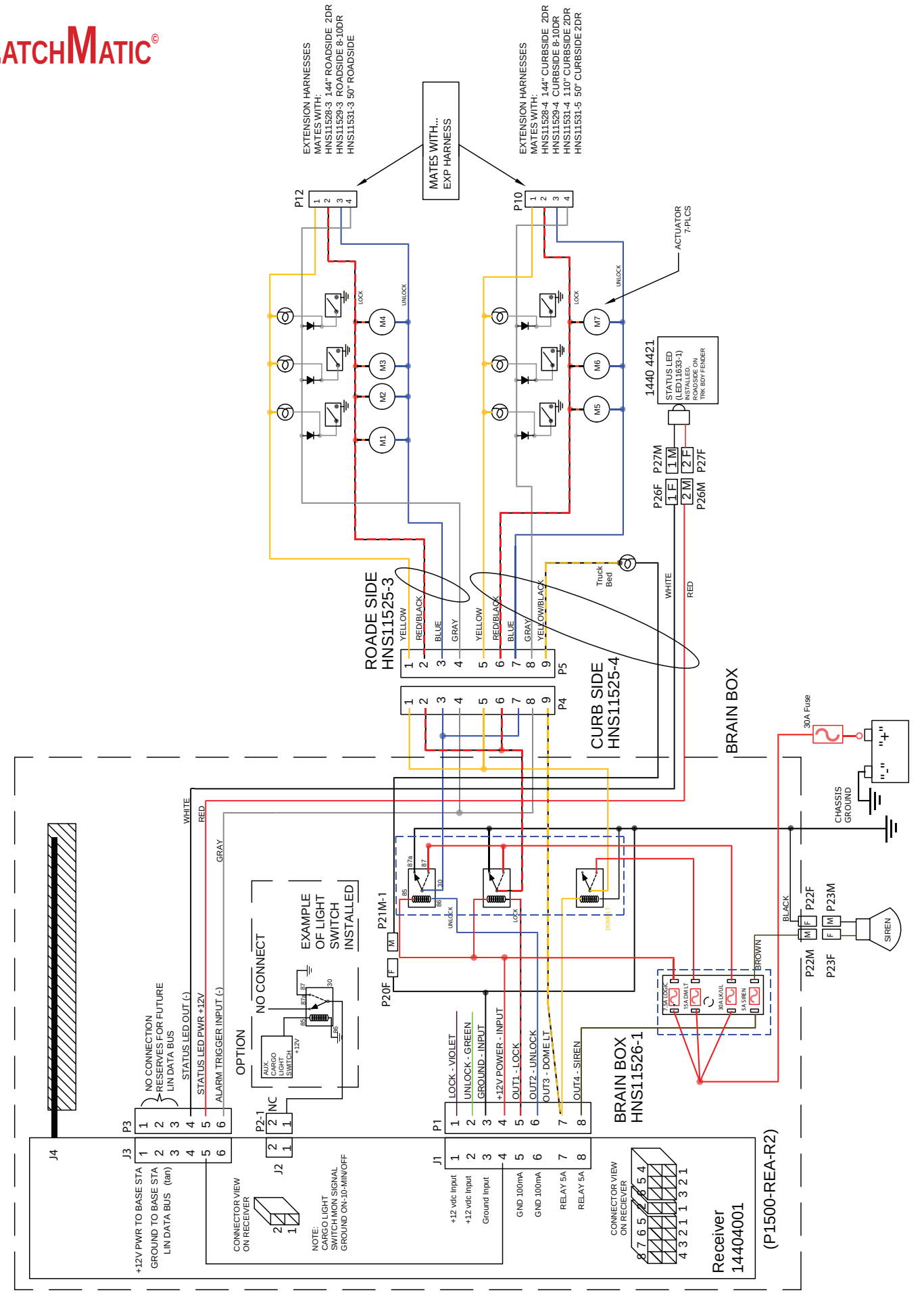
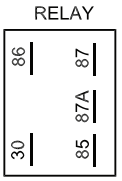

EXTENSION HARNESSES
MATES WITH:
HNS11528-3 144" ROADSIDE 2DR
HNS11529-3 ROADSIDE 8-10DR
HNS11531-3 50" ROADSIDE
MATES WITH...
EXP HARNESS
EXTENSION HARNESSES
MATES WITH:
HNS11528-4 144" CURBSIDE 2DR
HNS11529-4 CURBSIDE 8-10DR
HNS11531-4 110" CURBSIDE 2DR
HNS11531-5 50" CURBSIDE 2DR
P12
P10
ACTUATOR
7-PLCS
M1
M2
M3
M4
M5
M6
M7
LOCK
UNLOCK
1440 4421
STATUS LED
(LED11633-1)
INSTALLED
ROADSIDE ON
TRK BDY FENDER
P27M
P27F
P26F
P26M
ROADE SIDE
HNS11525-3
CURB SIDE
HNS11525-4
YELLOW
RED/BLACK
BLUE
GRAY
YELLOW/BLACK
P5
P4
Truck
Bed
WHITE
RED
BRAIN BOX
30A Fuse
CHASSIS
GROUND
"+"
"-"
P21M-1
P20F
87a
87
86
85
30
UNLOCK
LOCK
DOME LT
BLACK
BROWN
P22F
P22M
P23M
P23F
SIREN
7.5A LOCK
15A DM LT
30A LK/UL
5A SIREN
BRAIN BOX
HNS11526-1
LOCK - VIOLET
UNLOCK - GREEN
GROUND - INPUT
+12V POWER - INPUT
OUT1 - LOCK
OUT2 - UNLOCK
OUT3 - DOME LT
OUT4 - SIREN
P1
J1
+12 vdc Input
+12 vdc Input
Ground Input
GND 100mA
GND 100mA
RELAY 5A
RELAY 5A
CONNECTOR VIEW
ON RECIEVER
Receiver
14404001
(P1500-REA-R2)
J4
J3
P3
+12V PWR TO BASE STA
GROUND TO BASE STA
LIN DATA BUS (tan)
NO CONNECTION
RESERVES FOR FUTURE
LIN DATA BUS
STATUS LED OUT (-)
STATUS LED PWR +12V
ALARM TRIGGER INPUT (-)
WHITE
RED
GRAY
OPTION
NO CONNECT
P2-1
NC
J2
AUX.
CARGO
LIGHT
SWITCH
+12V
EXAMPLE
OF LIGHT
SWITCH
INSTALLED
CONNECTOR VIEW
ON RECEIVER
NOTE:
CARGO LIGHT
SWITCH MON SIGNAL
GROUND ON-10-MIN/OFF

## Symptom 1
## Compartment door won't unlock or lock but truck bed light and compartment lights turn On when the unlock button is pressed.

| Possible Cause | Corrective Action |
|---|---|
| **1.1** Blown Fuse | **1.1.1** Open brain box and check the Lock/Unlock fuse. Fuse F3 30A. If it is blown replace it. See page ??? |
| **1.2** No output from receiver | **1.2.1** Using a voltmeter, check pin P1-6 blue unlock wire and pin P1-5 red/black lock wire on receiver connector P1 (8-pin connector).<br>1. When unlock is active the blue wire should be at +12v and the red/black wire should be at ground.<br>2. When lock is active the blue wire should be at ground and the red/black wire should be at +12v.<br><br>If voltage is not correct, call factory additional assistance. |
| **1.3** Defective or damaged lock or unlock relay<br>  | **1.3.1** Check voltage on lock and unlock relays in brain box. Terminal 30 on Lock relay (red/black wire) or Unlock relay (blue wire) should have +12v present when relay is active.<br><br>If +12v is not present, check voltage on the same relays. There should be a ground signal on relay terminal 86 (coil) anytime the relay is active, Lock (red/black wire) or Unlock (blue wire)<br><br>Replace any failed relays.<br><br>For truck bodies with 18-doors and an expansion harness, there are two additional banks of relays located midway on the truck body, roadside and curbside. |
| **1.4** Terminal / Harness defective or damaged | **1.4.1** If the receiver output is OK, check the voltage at each harness connector, P4 & P5. There should be 12v at terminals 2 & 6 on both sides of the connector pair anytime Lock (red/black wire) or Unlock (blue wire) is active.<br><br>If no voltage, determine cause and repair.<br><br>If voltage is present, check voltage at actuator. There should be +12v on Red/Black Lock wire and Blue Unlock wire anytime circuit is active.<br><br>Continue checking wire harness until problem is located. Repair harness if possible or call factory for replacement harness. |
| **1.5** Damaged actuator motor (Lock/Unlock)<br> | **1.5.1** Unplug the failed actuator motor.<br><br>Using a voltmeter, check the blue and red/black terminals.<br>1. When the unlock button is pressed the blue wire should be at +12v and the red/black wire should be at ground.<br>2. When the lock button is pressed the blue wire should be at ground and the red/black wire should be at +12v.<br><br>If the voltage is correct when buttons are pressed, the actuator is damaged or defective. Call factory for replacement actuator. |
| **1.6** Plunger to actuator is jammed | **1.6.1** Check the alignment of the actuator plunger to the lock. If it is mis-aligned, correct the alignment and re-check alignment by pressing the lock and unlock buttons again. |
| **1.7** Lock is jammed | **1.7.1** Manually move lock to reposition, re-align and lubricate as necessary. If lock can not be corrected, call factory for replacement. |

## Symptom 2
## Compartment light does not turn On when Unlock is activated.

| Possible Cause | Corrective Action |
|---|---|
| **2.1** Blown Bulb | **2.1.1** Check bulb. If blown, replace. |
| **2.2** Blown Fuse | **2.2.1** Open brain box and check the Compartment Light fuse. Fuse F2 15A. If it is blown replace it. |
| **2.3** No output from receiver | **2.3.1** Using a voltmeter, check pin P1-7 yellow wire on receiver connector P1 (8-pin connector).<br><br>When compartment light is active the yellow wire should be +12v for 10-minutes. |
| **2.4** No Chassis Ground | **2.4.1** Any time a compartment door is opened the ground circuit is completed through the ring terminal, which is screwed under the door jamb switch. The ground connection is completed when the door is open and the push-button door jamb switch is extended.<br><br>Check ground connection. If it has failed, repair it. |
| **2.5** Failed Door Jamb Switch | **2.5.1** Open compartment door after unlock has been initiated. If light does not turn on, using a voltmeter, check ground at the door jamb switch. There should be a ground signal on the terminal if button is extended and no ground if button is not extended. If there is no transition for ground when switch is extended and pressed, then door jamb switch has failed. Call factory for replacement switch. |
| **2.6** Terminal / Harness defective or damaged | **2.6.1** Check voltage between receiver pin P1-7 in brain box and the failed compartment light. The voltage should be +12v on the yellow wire for 10-minutes after the unlock button is pressed.<br><br>Check all of the connectors and crimps between the brain box and the compartment light. If +12v is not present, the harness or crimp connection has failed.<br><br>Repair or call factory for replacement harness. |
| **2.7** Defective or damaged relay | **2.7.1** Check voltage on Compartment Light relay in brain box. Terminal 30 on Compartment Light relay (yellow wire) should have +12v present when relay is active.<br><br>If +12v is not present, check voltage on the relay. There should be +12v signal on relay terminal 85 (relay coil) anytime the relay is active for Compartment Light (yellow wire).<br><br>Replace any failed relays.<br><br>For truck bodies with 18-doors and an expansion harness, there are two additional banks of relays located midway on the truck body, roadside and curbside. |

## Symptom 3
## Truck Bed light Does Not turn On when Unlock is activated.

| Possible Cause | Corrective Action |
|---|---|
| **3.1** Blown Bulb | **3.1.1** Check bulb. If blown, replace. |
| **3.2** Blown Fuse | **3.2.1** Open brain box and check the Logic fuse. Fuse F1 7.5A. If it is blown replace it. |
| **3.3** No output from receiver | **3.3.1** Using a voltmeter, check pin P1-7 yellow/black wire on receiver connector P1 (8-pin connector).<br><br>When compartment light is active the yellow/black wire should be +12v for 10-minutes. |
| **3.4** No Chassis Ground | **3.4.1** On some truck bodies the ground for the truck bed light is provided using a ground screw installed on the truck body. On other truck bodies, it is provided in the wire harness.<br><br>Identify which type of ground is installed and check ground when Truck Bed Light is On. Repair as needed. |
| **3.5** Terminal / Harness defective or damaged | **3.5.1** Check voltage between receiver pin P1-7 in brain box and the failed truck bed light. The voltage should be +12v on the yellow/black wire for 10-minutes after the unlock button is pressed.<br><br>Check all of the connectors and crimps between the brain box and the truck bed light. If +12v is not present, the harness or crimp connection has failed.<br><br>Repair or call factory for replacement harness. |

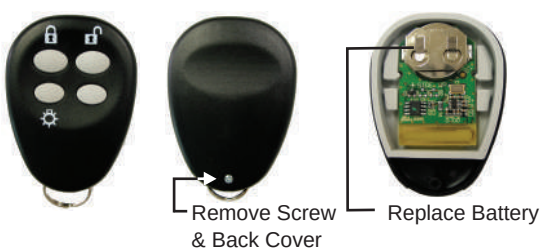
## Symptom 4
## Door locks or unlocks intermittently when transmitter Or transponder button is pressed.

**Check range of transmitter with the front curbside door open. It should be over 50-feet**

| Possible Cause | Corrective Action |
|---|---|
| **4.1** Dead or weak battery in FOB | 4.1.1 Replace battery in fob.<br><br>If transmitter or transponder still do not operate correctly, call factory for repair or replacement fob.<br><br>4.1.2 If batteries need to be replaced after only a few months of service, check expiration date on batteries. If more than 5 years old, replace with newer batteries.<br><br>If transmitter or transponder still does not operate correctly, call factory for repair or replacement fob. |

Note about Batteries:
- Lithium Coin Style, 3V, CR2032
- 10-year Shelf Life
- 2-year Operational Life in Transponder*
- 10-year Operational Life in Transmitter

*The transponder battery operational life is significantly shorter because the unit is always On, searching for a signal every few seconds.



Gently slide battery door toward key ring and flip back out of way
Loosen Key ring Strap
Replace Battery
Gently slide battery door back into place and re-tighten strap

## Symptom 4 - CONTINUED
## Door unlock or unlocks intermittently when transmitter Or transponder button is pressed.

**Check range of transmitter with the front curbside door open. It should be over 100-feet (average line of sight range is 300-feet).**

| Possible Cause | Corrective Action |
|---|---|
| **4.2** No RF Ground plane | **4.2.1** If the antenna is shorted or touching metal inside the compartment, the range will be significantly reduced.<br><br>Check the RF antenna to make sure it is not touching any metal or shorted to metal. If it is, reposition the antenna to "free air" and re-test. If the antenna has been cut, call factory for replacement receiver. Note: If the antenna is altered in any way, the range will be severely affected.<br><br>If this does not resolve the problem, call factory for further assistance. |
| **4.3** Fob is defective or damaged | **4.3.1** Try a different fob. If the 2nd fob unlocks or locks the doors, the 1st fob is defective or needs a new battery. See 4.0<br><br>If a new battery does not work, call the factory for repair or replacement fob. |
| **4.4** Low truck battery voltage | **4.4.1** Check the truck battery voltage which should be a minimum of 11.6VDC when the unlock or lock signal is present. If the voltage is lower than 11.6VDC, replace truck battery. |
| **4.5** No Chassis Ground | **4.5.1** Check chassis ground for the keyless system. If the chassis ground is loose or the connection is not clean, the ground will be intermittent and range can be significantly reduced. Clean and / or repair the ground connection.<br>***Note: For best performance, the chassis ground must be connect to the truck frame, not just the truck body.** |
| **4.6** Receiver's RF circuit damaged or defective | **4.6.1** If neither fob will lock or unlock the doors, the receiver RF circuit may be damaged or defective. Call factory for additional assistance or for a replacement part. |
| **4.7** Battery has low voltage | **4.7.1** Check voltage of battery when lock actuators are operating. If it dips below 11.50, change battery<br><br>**4.7.2** Check for poor battery connetion. Tighten or repair battery crimp. |

## Symptom 5
## Status LED does not flash when doors are locked or unlocked

| Possible Cause | Corrective Action |
|---|---|
| **5.1** No LED output from receiver<br><br>***DO NOT bench test the status LED using +12VDC. Status LED can be tested using +3VDC.** | **5.1.1** Unplug status LED and using a voltmeter, check the white wire.<br><br>The white wire will be at ground anytime the status LED flashes.<br>Single Flash for Lock<br>Double Flash for Unlock |
| **5.2** Status LED is damaged or defective | **5.2.1** Check Status LED signal from receiver. If signal is ok, the Status LED is damaged or defective. Call factory for replacement |
| **5.3** Status LED harness is damaged or defective | **5.3.1** If voltage is correct from receiver and Status LED is ok, then check wire harness for damage. Repair as needed or call factory for replacement. |

## Symptom 6 - PASSIVE SYSTEM ONLY
## Doors don't unlock when fob is within 5-feet of LF (Low Frequency) Antenna installed at rear of truck

| Possible Cause | Corrective Action |
|---|---|
| **6.1** Weak or dead battery in transponder | **6.1.1** Replace with CR2032 3V lithium coin style battery. See note regarding batteries in Section 4.1 |
| **6.2** Defective or damaged transponder | **6.2.1** Check red LED on transponder. It will flash anytime the LF (low frequency) signal is detected.<br><br>Try a 2nd transponder, if it works ok, call factory for repair or replacement of the in-operable transponder. |
| **6.3** LF antenna harness or connectors are damaged or defective | **6.3.1** Check connections and wire harness between the LF antenna and the LF transmitter.<br><br>Repair any loose connections or crimps. |
| **6.4** LF transmitter or LF antenna is damaged or defective | **6.4.1** Check the white wire (P8 connector) between the LF antenna and the LF transmitter.<br><br>It should pulse to +12v about every 5-seconds. If the +12v signal is NOT present, the LF Antenna is damaged or defective.<br><br>Call factory for repair or replacement. |

## Symptom 7
## Siren does not chirp when door is locked or unlocked

| Possible Cause | Corrective Action |
|---|---|
| **7.1** Siren fuse is blown | **7.1.1** Check the siren fuse in the fuse block. Fuse F4 5A. If it is blown replace it. |
| **7.2** Harness or connectors to siren are damaged or defective | **7.2.1** Check siren wire harness and connectors.<br><br>Repair or call factory for replacement harness. |
| **7.3** Siren is damaged or defective | **7.3.1** Check brown wire at siren.<br><br>When unlock signal is present, the siren should chirp twice and there should be a +12v signal momentarily present.<br><br>If the signal is present, siren is damaged or defective. Call factory for repair or replacement. |
| **7.4** Low voltage or poor ground connection | **7.4.1** Check battery and charge if necessary.<br><br>Repair poor ground connection.<br><br>***Note: For best performance, the chassis ground must be connect to the truck frame, not just the truck body.** |

## Symptom 8
## System is "DEAD". No outputs turn on when transmitter or transponder buttons are pressed.

| Possible Cause | Corrective Action |
|---|---|
| **8.1** Fuse is blown | **8.1.1** Check the logic fuse in the fuse block. Fuse F1 7.5A. If it is blown replace it. |
| **8.2** Damaged or defective receiver or base station | **8.2.1** If logic fuse F1 is ok, and there is power and ground to the receiver, the receiver is damaged or defective. Call factory for further assistance or replacement part. |

## Symptom 9
## Doors Lock & Unlock correctly but siren does not chirp

| Possible Cause | Corrective Action |
|---|---|
| **9.1** Main ground to receiver or base station is faulty or poor | **9.1.1** Re-crimp, re-attach the chassis ground. |
| **9.2** Main ground to receiver or base station is floating | **9.2.1** The chassis ground is connected to the ***truck body***. Truck body does NOT have a good ground. Move ground to the ***truck chassis***. |

## Symptom 10
## Alarm does not arm when all doors are closed and locked. (no chirp)

| Possible Cause | Corrective Action |
|---|---|
| **10.1** One of the door jamb switches have failed | **10.1.1** Using a volt meter, determine which door jamb switch is broken or has failed and repair or replace. Call factory for replacement switches. |
| **10.2** Short in wire harness | **10.2.1** Using a volt meter check continuity to locate short and repair. |
| **10.3** One of the diodes in the wire harness is blown | **10.3.1** Using a volt meter, determine which diode has a continuous ground. Repair or replace harness. Call factory for replacement harness. |
| **10.4** Door jamb switches are not aligned correctly | **10.4.1** Mis-aligned door jamb switches do not see the ground signal when door is closed.<br><br>Re-align door jamb switches |

## Symptom 11 - LatchMatic SmartShield ONLY
## Doors lock when in AutoZone (should remain unlocked)

| Possible Cause | Corrective Action |
|---|---|
| **11.1** One of the antennas is disconnected or has failed | **10.1.1** Check base station to confirm the diagnostic antenna LED is ON solid red.<br><br>Check antenna connection. Reconnect or repair connection. Call factory for replacement antenna. |
| **11.2** Short in wire harness | **10.2.1** Using a volt meter check continuity to locate short and repair. |

## System Specifications

| 14404001 LatchMatic Receiver | |
|---|---|
| Range | 50 Feet - Closed Compartment<br>300 Feet - Line of Sight |
| Output | 2 Transistor, 0.2A |
| Output | 2 Relay, Positive, 5A |
| Input Signal | Status LED<br>2 (+12v) A1 & A2<br>2 (-12v) J2-1 & J2-2 |
| Frequency | 433MHz RF<br>125KHz RFID |
| Codes | Rolling Codes<br>Secure Encryption |
| Operating | 12VDC |
| Current | 5 Amps Max per Output, (Relay, POS)<br>0.2A Max per Output, (Transistor, GND)<br>5 Amp Input - Power<br>5mA Standby (sleep) |
| Antenna | Fixed - Standard, 1/4 Wave, 50 ohm |

| 14404420 LF Antenna (SmartShield) | |
|---|---|
| Range | 3 - 12 Feet |
| Frequency | 125KHz |

| 14404005 Base Station (SmartShield) | |
|---|---|
| Range | 3 - 12 Feet |
| Frequency | 125KHz |
| Operating | 12VDC |
| Data Bus | LIN |
| Current | 0 Fobs 11mA<br>1 Fob 28mA<br>2 Fobs 43mA<br>3 Fobs 57mA |
| Codes | Rolling Codes<br>Secure Encryption |

| Battery - All Transmitter/Transponder Styles | |
|---|---|
| Battery | Coin Style, Lithium, CR2032<br>100,000 1-second pulses<br>10 year shelf life<br>2 year operational life |

| 14404415 TK4 Transmitter | |
|---|---|
| Range | 300 Feet - RF |
| Frequency | 433MHz RF |
| Codes | Rolling Codes<br>Secure Encryption |

| 14404413 TP3 Transponder | |
|---|---|
| Range | 300 Feet - RF<br>3-12 Feet - RFID |
| Frequency | 433MHz RF<br>125KHz RFID |
| Codes | Rolling Codes<br>Secure Encryption |

**Technical Support**
**800-458-2226**

## LatchMatic©-SmartShield

14404005 14404420 14404413

Base Station
3.0” x 5.0” x 2.0”

LF Antenna
3.00” x 0.50”

TP3 Transponder
2.50” x 1.75”

## LatchMatic©

14404001 14404415

Receiver
3” x 5” x 1.0”

TK4 Transmitters
2.50” x 1.75”

## Replacement Components for LatchMatic & LatchMatic SmartShield

14404031 Actuator - 45 Newton

14404401 Siren - 6 Tone

14404421 Status LED

14404411 Switch, Push Button Door Jamb

Cargo Light Switch - Any ON/OFF SPST Standard Switch

Brain Box Wire Harness
14404021 - Latchmatic
14404006 - Latchmatic SmartShield

14404011 Standard Truck Body Wire Harness
Roadside - R/S
Curbside - C/S

14404131 Extension Wire Harness - 50” R/S & 110’ C/S

14404132 Extension Wire Harness - 50” R/S & 50” C/S

14404419 Antenna Cable - R/S & C/S

## Limited One (1) Year Warranty

**Section One**

Seller will warrant any product originally manufactured or assembled and sold by seller for a period of up to TWO YEARS (24 months) from the original date of manufacture or ONE YEAR (12 months) from the original retail sale or O.E.M. in-service date.

**Section Two**

The following are in lieu of all warranties; expressed; implied; or statutory, including but not limited to, any implied warranty of merchantability of fitness for a particular purpose and of any other warranty obligation on the part of seller. Seller, except as otherwise hereinafter provided, warrants the goods against faulty workmanship or defective materials for a period of up to TWO YEARS (24 months) from the original date of manufacture or ONE YEAR (12 months) from the original retail or O.E.M. in-service date.

Seller's sole and exclusive liability shall be (at seller's option) to repair; replace; or credit buyer for such goods which are returned by buyer during the applicable warranty period set forth above, provided that (I) seller is promptly notified in writing or by phone upon discovery by buyer that such goods failed to conform and an explanation of any alleged deficiencies, (II) such goods are returned to seller, (III) sellers examination of such goods shall disclose that such alleged deficiencies actually exist and were not caused by accident, misuse, neglect, alteration, improper installation, unauthorized repair or improper testing. If seller elects to repair or replace such goods, seller shall have a reasonable time to make such repairs or replace such goods.

Seller's warranties as herein above set forth shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise or grow out of, sellers rendering of technical advice or service.

Damage to products caused by the customer or during installation cannot be claimed under this warranty. All devices returned that are not covered under the seller's warranty policy, will be charged a minimum of $25.00 for evaluation plus additional charges for components and labor to repair the device not to exceed the original selling price. Seller considers the following to be typical examples of customer or installation damage: burned or broken traces on the printed circuit board, burned or damaged components, dirt or water residue on the printed circuit board or inside the case, modifications by the customer, broken cases or housings and dead batteries

**Section Three**

A return material authorization number (RMA) must be issued by seller before any product is returned for evaluation or repair. Warranty repairs must be completed at authorized repair facilities.

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FCC Compliance and Advisory Statement. This hardware device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

Canadian DOC Statement. This digital device does not exceed the Class B limits for radio noise emissions from digital apparatus specified in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

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Déclaration FCC. Cet équipement a été testé et déclaré conforme à la section 15 du règlement de la FCC. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences dangereuses, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable. Cet équipement a été testé et déclaré conforme aux limitations prévues dans le cadre de la catégorie B des appareils numériques défini par la section 15 du règlement de la FCC. Ces limitations sont stipulées aux fins de garantir une protection raisonnable contre les interférences gênantes en installation résidentielle. Cet équipement génère, utilise et diffuse des ondes radio, et s'il n'est pas installé ni utilisé en conformité avec les instructions dont il fait l'objet, peut causer des interférences gênantes avec les communications radio. Cependant, nous ne pouvons vous garantir qu'une interférence ne se produira pas dans une installation particulière. Si cet équipement produit des interférences graves lors de réceptions radio ou télévisées qui peuvent être détectées en allumant et en éteignant l'équipement, vous êtes invités à les supprimer de plusieurs manières: 1) Réorienter ou déplacer l'antenne de réception; 2) Augmenter la distance séparant l'équipement et le récepteur 3) Connecter l'équipement à un circuit différent de celui auquel le récepteur est connecté; 4) Contacter votre revendeur ou un technicien radio/TV qualifié. Toutes modifications ou tous changements effectués sans l'accord exprès de la partie responsable de la conformité aux normes pourraient contraindre l'utilisateur à ne plus utiliser son équipement. Afin d'assurer la conformité avec les règlements FCC, les câbles d'interface blindés fournis avec le produit doivent être utilisés, ainsi que tout autres composants ou accessoires également spécifiés, lors de l'installation du produit.

Déclaration du Ministère des Communications Canadien. Cet appareil numérique est conforme aux limitations concernant l'émission d'interférences radio par des appareils numériques de catégorie B, telles que stipulées dans le cadre de la norme Appareils numériques ICES-003 édictée par le Ministère canadien de l'industrie.

Cet équipement a été déclaré conforme à la norme RSS-210 édictée par le Ministère canadien de l'industrie. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable.